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DECLARATION

I hereby declare that the project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it is has not been previously or concurrently submitted for any other degree at USM or any other institutions.

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DATE : 16/6/2009

**A STUDY ON LOGISTICS RELATIONSHIPS AND LOGISTICS SERVICE
QUALITY WITH LOGISTICS INFORMATION TECHNOLOGY AS
MODERATOR**

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**Research report in partial fulfillment of the
requirements for the degree of MBA**

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Chapter 1

INTRODUCTION

1.0 Introduction

Transport sector covers air, sea and land transport in which, sea and air transport services are the two main components of the transport sector in Malaysia. Logistics has plays an important role as it provides the back bone to facilitate international trade. Logistics value chain involves integration of various multimodals of transport and ancillary service to deliver a total supply chain solution. For a more focus on this sub-sector, Malaysia Logistics Council has been set up (MLC) in February 2007 to be the focal point for the overall coordination on strategies, policies, regulations and rules for the logistics sector (MPC, 2008). Logistics has emerged from merely a supporting activity in facilitating trade to a crucial sector by which the nation's competitiveness is measured. Such is its strategic value today that businesses and foreign investors make decisions to enter into a country based on the adequacy and efficiency of its logistics industry. Part of the success of Malaysia as one of the 20 top trading nations in the world is its ability to offer comprehensive, reliable and cost competitive logistics services to manufacturers and shippers.

In addition, the logistics services in Asia are projected to grow by a robust 15% annually, as logistics outsourcing in the region quadruples to US\$80 billion by 2012. Frost and Sullivan (2005), a global growth consulting company, has rated Malaysia among the top five countries for logistics in global shared services and outsourcing (SSO). The logistics industry in Malaysia is expected to experience high growth in Asia Pacific due to the intensity of

manufacturing focus, and is tipped to maintain its compounded annual growth rate of 12.93% through to 2007.

Developments of industrial zone in Northern state have induced more logistics companies operating in Penang. This can be seen from the increasing number of logistics companies, from 1990's with just 60 over logistics companies registered with Malaysia Royal Custom Agency Department to more than 300 companies to date. The increasing number of logistics companies was due to the liberalization of logistics services in Malaysia. In view to this, and also to cope with the extend demand for logistics and it's value added services, for example multimodal transport and advent of containerized cargo, proactive strategy taken by Malaysian government by issuing more permit to the hauler operators. In 1990's, only 5 major haulers were approved by Commercial Vehicle Licensing Board (CVLB), and now there are more than 40 hauler companies operating in Penang. This is a good sign for logistics users as they have a variety of choices, at a competitive rate with an innovative and creative service in meeting their needs and wants. However, this is not a good sign for small logistics operators as the cake becomes smaller and they have to be fully prepared in order to remain in the industry.

1.1 Background

In a matter of few decades, Malaysia has transformed its economy from agriculture based to a trade-driven one. Central to powering the growth of this economic transformation is its trading with other nations. International trade has become a critical component of Malaysia's economic engine. Given the importance of international trade to Malaysia, much of which is seaborne, logistics has assumed a very prominent role in providing the backbone to facilitate it. As manufacturing becomes more globalize and companies choose to locate their

manufacturing operations in the most cost-competitive areas, international trading activity is expected to grow, impacting on the growth in the logistics industry. More and more manufacturing concerns, which are outsourcing their transportation need, are increasingly using the logistics service providers that would handle their needs.

Reported by MIMA (www.mima.gov.my) In 2007, for example, logistics players in Malaysia have handled RM1.1097 trillion worth of trade and 15.3 million TEU of national container throughput which is seen to experience a strong growth in the next few years. Total contribution from the transportation, storage, and communication services sector accounted for RM 23.2 billion or 8.8% of the country GDP. This sector is projected to grow to RM 79.6 billion by 2020 contributing 12.1% to Malaysia GDP (Ministry of trade speech March 19, 2007). In line with the expected growth in logistics industry, the sea freight which accounts for 95% of the country's trade is projected to reach 751 million tones by 2020, which is almost a triple of the 252.6 million tones in 2005. Air freight is also expected to be more than double that of 2005 and expected to reach 23.6 million tones by 2020. Moreover, the rail freight is projected to hit 18.6 million tones, which is a four-fold increase of the 4.0 million tones in 2005.

According to Khalid (2008), strong government support, good infrastructure and advance development in information technology were the main factors influencing growth in the logistics industry in Malaysia. This has brought forward Malaysia logistics to compete in the global market. The development of Information and communication technology (ICT) and electronic commerce (e-commerce) have shaped the way of business done, (mima.gov.my) on the same time has created more opportunities for logistics companies to increase scope of businesses. In North Corridor Economic Region report (NCER, 2008), Penang state was planned for regional integrated logistics hub (www.seri.com.my). This has made Penang a

number one in terms of attraction to the international logistics service providers to venture in Penang, and the reason why Penang was chosen for this study because of the prospects in becoming local transportation and logistics hub in Northern Peninsular of Malaysia.

A result from globalization and trade liberalization has attracted many local and international logistics players mushrooming Penang market, which has contributed to vast competitions among the logistics players. This situation has suggested there is vulnerability for logistics players to look for new mechanism in combating the competition as pricing policy, is no longer viable in this current economic condition. Service quality is believed to be the important criteria in triggering the company performance which is supported by few empirical studies. In study done by Rapert and Wren (1998) revealed that, companies which is implementing service quality in the organisation will experience good return in both short and long term, in addition to according to Rahman, (2004) who indicated that firms which is emphasize on service quality will achieve competitive advantage through costs reductions and better performance in services. Providing quality service can help firm achieving competitive advantage in long run, it will increase the customer retention and generate more profit to the company (Hampton, 1993)

By understanding the importance of service quality to the logistics industry, it is essential to examine the factors influencing the service quality. Previous researchers indicated relationships are a new way to improve quality of services. In Rahman, (2004) revealed that good relationships is one way of customer retention and foundation to improve company revenue. In addition to this, Payanides and So (2005) in Hong Kong revealed that relationships between logistics users and provider in Hong Kong has influenced the level of services delivered to the customer. Same result produced in Fynes, Voss and Burca, (2004) who study on the relationships and supply chain performance, revealed good relationships can

help the company becoming more innovative. Instead of focusing on the relationships logistics, this study will emphasize on the logistics information technology in influencing the quality service. Quality is a subjective measure which can be translated in many ways by different users; it is ongoing problems embedded along with the logistics process which will influence the performance of the company. According to Yong (2002), generally there is a supportive environment to the global logistics in Malaysia. This study, however, provides an attractive argument by pointing out that even when the supportive environment is provided, the logistics service quality could still impact firms' logistics management. Given this situation, the logistics service quality is an interesting issue to study.

1.2 Problem Statement

Logistics is seen to play a positive role in the growth of business performance because many literature reviews have proved that logistics principles can improve the competitive position among companies in the chain (Lee, 2002, Pyke, & Johnson, 2002). With the advent of multi-modal logistics in Malaysia, service providers have been focusing on establishing linkages and forming an entire logistics chain. Another trend noticeable in the logistics industry in Malaysia are, most of the players specialize in the field as freight forwarding, container haulage, warehouse operation or conventional truckers and operate with minimal linkage to the other components in the logistics chain (New Strait Times, 1998). Penang was chosen for this study because of the prospects in becoming local transportation and logistics hub in Northern Peninsular of Malaysia. Therefore there is need for study on the service quality for Penang logistics in order to cope with the global competition. This issue has been addressed by Minister of International Trade, Muhyiddin (2008) by asking the logistics players to

enhance the quality of services provided in order to facing the trade liberalization challenges in future.

Knowing the importance of the quality in services, previous studies were done in Malaysia, primarily focusing on implementing quality management in the organization (Hazman, 2000, and Poh & Hamid, 2001). Indeed the studies on the logistics functions are also concentrated on total quality management (Sohail, Sohal and Millen, 2004). Several researchers have been done in Malaysia and Singapore on logistics; however, they are more focusing on the use of third party services (Sohail, Bhatnagar & Sohal, 2006 and Sum & Teo, 1999). To our knowledge, no comprehensive studies reported in the literature focusing on the extent of logistics service quality among logistics providers in Malaysia. This study aims to fill this gap.

1.3 Research Objectives

The objectives of this research are to:-

- 1) To examine if logistics relationships influence logistics service quality,
- And
- 2) To examine the moderating effect of logistics information technology on logistics Relationships and logistics service quality.

1.4 Research Questions

The questions of this research are as follows:

- 1) Do logistics relationships significantly influence logistics service quality?
- 2) Does logistics information technology moderates the effect of logistics relationships And logistics service quality?

1.5 Significance of the Study

This study aims to provide significant information to the logistics practitioners in Penang on the importance of logistics relationships in influencing logistics service quality and also to expose the most important relationships criteria which is highly influence the relationships construct, besides to study the moderation effect of logistics information technology to the logistics relationships and logistics service quality.

Hope with such information will benefit logistics practitioners in equipped themselves in coping with the current logistics challenges with regard to the globalization and trade liberalization. Finally the findings of the present study are aim to bridge the gaps between logistics relationships and logistics service quality.

1.6 Scope of The study

In this study, logistics service providers in Penang were selected. They comprise of local and multinational logistics companies which mainly use Penang Port and Bayan Lepas Airport a logistics hub. These service providers cater firms are in the state of Kedah, Northern of Perak, Perlis and Southern Thailand. Most of the companies are registered under Penang Freight Forwarders Association as well as Royal Malaysia custom agency department. The unit of analysis used in this study is the organization. The qualitative measures of logistics service quality will be used, which are believed to be more appropriate than financial performance, because most companies are more sensitive about the financial record. The study attempts to analyze the usage of Logistics system towards the quality of service provided, that is, whether the logistics system can influence the relationships between logistics practitioners and logistics users in achieving quality services

1.7 Definition of Key Terms

Logistics defined by logistics council “The process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in process inventory, finished goods and related information flow from point of origin to point of consumption for the purpose of conforming to customer requirements”

Service Quality - Comparison of consumer expectation with the actual service performance (Parasuraman, Zeithmal and Berry, 1985).

Logistics Service Quality – is a logistics concept of satisfying customer needs, this concept is applicable for logistics service provider in measuring customer satisfactions towards the services performed (Mentzer, Flint and Hunt, 2001). Delivering quality logistics services is one way of satisfying customer needs and also key component of successful marketing.

Relationships – is an interactive action between parties, either party will be affected as a result from the other party actions, and both parties are interdependent to each other in all situations. (Gummesson,1987). “Two parties are said to have relationships when they are behaviorally interdependence “(Harisson, Knight, Larry and Norman, 2000)

Trust - Willingness to believe in other people words (Moormon et al., 1992). This feeling will only develop when parties in the relationships know each other. According to Rashid (2003), it will only develop if both partners are confident with each other. According to

Morgan and Hunt (1994), the confidence of trusting party results from firm belief that the party is reliable and of a high integrity.

Satisfaction - Satisfaction is a personal feelings or emotions which will only be achieved when people manage to get what they want or get more than what they are expected to get (Carmamero, 2007).

Bonding - Bonding is a strong interpersonal relationship between two parties. These feelings will strongly glue both parties in the relationships together in achieving the desired goals. It is an important criterion in relationships as it will nurture and instill the relationships forever (Rashid, 2003).

Communication - Communication is the way how people convey, exchange and transform the useful information in a correct way and manner (Carmarero, 2007). Rashid (2003) defined it as very important in relationships as it has a propensity to influence the relationships between the parties involved in business.

Commitment - Commitment exists when partners are committed to each other and when they are willing to cooperate and comply with others' requests, share information and engage in problems solving (Hari et al., 2004). According to Morgan and Hunt (1994), commitment is central to all the relational exchange between the firms and its various partners.

1.8 Organization of Remaining Chapters

Chapter 1 provides a background of the study. Chapter 2 presents the literature review based on the previous studies about logistics, relationship marketing orientation, the importance of relationship in logistics, dimension of relationships, service quality, service quality measurement model, and logistics information system. Based on the literature review, the theoretical framework and hypotheses were developed. The following chapter presents a methodology that was used in this study. Chapter 4 describes the results from data analysis. Finally, chapter 5 will discuss the findings of the study, implications to theory and practice, limitation of the study and proposes some suggestions for future research.

Chapter 2

LITERATURE REVIEW

2.0 Introduction

This chapter will review past studies on the logistics relationships; logistics service quality and logistics information technology. Based on the previous studies, theoretical framework and hypotheses will be formulated.

2.1 Relationships Marketing Theory

Relationships marketing have been a focal point for researcher from last decade until today. More researchers were attracted to delve relationships marketing theory is due to its significant role in enduring relationships, to meet the global competition and changes in the business landscape. According to Gummerson (1994), relationship marketing (RM) “is marketing seen as relationships network”. To have a successful relationships binding, there must be at least two parties in the interaction which is normally between supplier and consumer. This relationship interaction will transform into network when more people are involved (Gummerson, 1994). Previous research revealed more of relationships marketing studies were done in the field of services and industrial sector. (Davis, 2007; Morgan and Hunt, 1994), define relationships marketing as “an interaction process between customer and supplier in building, creating and sustaining the relationships”. Relationships marketing theory was derived from the interaction process in the service, meaning relationships marketing overwhelming the process of satisfying the customer needs, creating the value and nurture the relationships in long term. In this study relationship marketing theory will be applied in construction of logistics relationships domains. A number of relationships construct

which is constantly used in the relationships marketing literature and believed to be more appropriate to this study are commitment, trust and satisfaction. In Beyou, (2002), Relationships marketing is an effort to create value and commitment to customers in providing premium services at a minimum costs. This can be achieved through partnerships, which and in long term will enhance company profit. Relationship marketing is different from traditional marketing in 3 ways;

1. One to one relationships- only binding the people involving in the partnership and not to the whole organization for example between marketer and customer.
2. Interactive process- it is not a transaction process which is more customers oriented.
3. Value added activity- which is gained through the mutual understanding and cooperation between both partners in the relationships in enhancing the quality of the relationships.

2.1.1 Relationships

Relationship is the way people behave or interact towards each other and this behavior was developed as a consequence from the past experiences which influence future actions (Szimigan, Canning and Alexander, 2005). Wilson (1994) in Ruyter and Lemmark (2001) has stated that “relationships have become strategic and the process of relationships development in accelerated as firm strives to create relationships to achieve goals”. This process evolves through a process of time (Dwyer et al., 1987). According to Scanzoni, (1979) there are five phases of relationships construct. First phase is alertness or induction phase, in this phase, each party is in the process of knowing each other and by all means,

are trying very best to project themselves in order to attract each other attention of being chosen as a partner. Second phase is exploration, both parties will explore the benefit and responsibility that each partner must carry and bear, and this is considered as trial phase. Third phase is extension of the relationships whereby, both parties are likely to become more dependent to each other. As the level of trust has increased, they are becoming more committed to the relationships. The fourth phase is when the relationships started to grow, to bind the partners. In this stage each party will achieved most desired satisfaction in their relationship exchange; however this stage is quite fragile as both partners need to fully nurture the relationship in order to have long lasting relationships. The fifth phase of relationships is dissolution. This phase will arise when the partners are dissatisfied with each others' performance and they begin to un bonding the relationships after considering no benefit the can gain from the relationships. This dissolution phase, will only occurred after no solutions are found after discussions and negotiations.

2.2 The Importance of Relationships in Logistics

Successful of business practices worldwide are depending on the good business relationships between buyer and seller. In Chinese culture 'guanxi' "it's who you know" (Yau et,al, 2000) has been traditionally used to express and maintain the relationships at all times. This culture is important especially in logistics business, as it's in the grooming phase. The need for collaboration between the parties for a better business relationship is crucial, as was mentioned by Dr Michael Hammer "collaboration allows companies to leverage each other on an operational basis so that together they can perform better than separately". Relationship is the condition where a supplier is working towards creating value to their customers (Davis,

2008). This condition will only arise when both parties have continuous cooperation in creating the bonding between each other to satisfy each other's needs.

Relationships will benefit both parties which encourage them to share information and resources for the benefit of the parties involved (Chen, Shi and Dong, 2008). A relationship was built based on the commitment, time and efforts. Moreover, both partners must have the same value and understandings (Zineldin, 2004). In study by Batt and Rexha , (2000) revealed a positive relationship between supplier and buyer will enhance quality services. This is support by Carmamero (2007) who mentioned that relationships between customer and seller are greater foundation for service quality, as close relationships with key suppliers will improve the quality of services delivered at reduce costs (Vijay & Keah, 2006). Relationships is crucial for all businesses, particularly for the business which involve high level of commitment and integrity, as high relationships is the determinant factor for successful of the company (Cheng, Shi and Dong, 2008). Strong relationships between customer and supplier will reduce uncertainties in the service provided; this will increase customer confidence towards the supplier capabilities and will benefit suppliers in the long run. This will increase retention rate and automatically will eliminate them from shifting to competitors.

2.3 Relationships Dimensions

There are few dimensions of relationships model constructed in the previous studies. Based on the commitment trust theory developed by (Morgan & Hunt 1994), trust and commitment are independents antecedent to relationships outcome. According to Jungbok, Kiran and Anusorn (2003), trust, satisfaction and commitment are use to investigate the difference in

culture between importer and exporter relationships. Results showed that all three dimensions are relatively important.

In Payanides and So (2005), trust, bonding, communication, shared value, and empathy were used to study the performance of third part logistics provider; and all dimensions indicated importance in influencing the relationships, trust scored the most which was indicated by the highest beta . In Yao, McFetridge, Chow, Lee, Sin and Tse (2000) the dimension of trust, bonding, empathy and reciprocity was used to measure the construction of relationships marketing. However in this study will only discuss the dimensions of trust, satisfaction, bonding, communication, and commitment, which are believed to be most suitable dimensions to this study.

2.3.1 Trust

Trust is defined by Moorman et al., (1992) as “willingness to rely on an exchange partner in whom one has confidence”. To developed and instill trust in each partners involve a long process which required time and empathy. This is supported by Batt and Rexha (2000) who revealed trust could be the consequences of long-term relationships, and trust is an important element in the firm (Ndubisi , 2007). Most of today’s businesses run on the basis of trust between the supplier and the buyer. Trust is the most important foundation for relationships; lack of trust will eventually deteriorate the relationships (Sherman and Sookdeo, 1992). In Batt and Rexha (2000), trust was found to be the determinant factor in choosing seeds suppliers, as buyer are more confidence in dealing with old supplier because of the experience that they have. The study by Jungbok et al., (2004) which was done in Korea, revealed that trust enhances the business performance, and in addition to study by Sako (1997), trustworthy partners contribute to the successful relationship in achieving better

company performance, as more trust developed between suppliers and buyers, they are becoming committed to perform their tasks efficiently.

Study done in China by (Tian et al., 2007) revealed that by increasing level of trust among logistics users and practitioners is one way to develop good relationships, which will help to raise level of logistics practitioners efficiency through reduction in monitoring costs. There are two types of trust: conditional and unconditional. Unconditional trust is based on the trait of the experience and relationships between parties. However, conditional trust was based on the agreement between partners in the relationships. Unconditional trust will build cooperation between partners (Jones and George, 1998).

2.3.2 Satisfaction

Satisfaction is defined as “an affective response of varying intensity based on the products and other standards comparison at the time of purchase or during consumption” Jon and Joseph (2002). However, in Johnson and Fornell, (1991) satisfaction is defined as “customer overall evaluation of the performance of an offering to date”. In the service context, satisfaction is similar to service quality. According to Ruyter and Bloomer (1999), in service context, delivery expected a service to customer is one way to satisfy customer needs and satisfaction. But in the context of extended services, it is different from performing basic services as customer expectation will vary according to their own perceptions and experiences, which are beyond the service provider control. In addition to Seth, Deshmukh and Vrat (2006), satisfaction only achieved when customer received quality of services exceeding their perceptions. By delivering good and better services to customer will increase their satisfaction and indirectly will improve performance and profitability of the company.

Satisfaction is another relationships dimension which is believed to be an important factor in maintaining good relationships with customers, from word of mouth, satisfied customers will likely to promote to the world at large, on the positive experience with the service provider (Cheng et al., 2008). Study by Tian, Lai and Daniel, (2007) revealed, satisfaction will enhance the customer trust level, which they are more likely to have a long term relationships with supplier. The same result was obtained from the study from Caceres and Paparoidamis, (2007) showed, satisfaction will directly influence service quality and on the same time increase customer loyalty. In addition to study by Rashid (2003) revealed, satisfied clients were found to be more loyal, they are becoming more understandings with the supplier commitment and effort in delivering good services to them. This will greatly influence customer retention rate as they will no be influence to the changes in prices.

2.3.3 Bonding

Bonding defined in Rashid, (2003)” is when two parties in business are having same objective and desire, and working closely with each other in achieving those objectives”. Cann and Samrall (1997) defined bonding as a “process that will go through various stages and act as a binding forces that glue the buyer and seller together in maintaining their relationships over time”. There are many type of bonding exists, which is carrying different meanings and representing different stages of relationships (Yau et al, 2000) Bonding will only developed when two parties in the business have a mutual understandings on the relationships construct . Bonding involving personal feelings towards each partners, if both parties are having the same interest and fit to each other the bonds will tighten their relationships (Cann and Samrall, 1997).Personal relationships will stimulate internal relationships and sense or desire to have relationships between each other (Karin and Pervez, 2004). In study done by Carter,

(2008) on the relationships of social bonding in business, revealed, higher integration in social bonding will influence level of co operations between parties; this is as a result of the increasing level of confidence and trust between the parties.

2.3.4 Communication

Communication is indication for partnerships strength, and quality communication is key for the partnerships success (Mohr and Speakman, 1994) As mentioned in Perreault (1999, p. 441) in (Carter, 2008) define as “expectations of open sharing of information that can be useful to both parties” . Having good and effective communication among logistics users and logistics provider can eliminate error in communication which will boost performance of the company. Ndubisi (2007) good and effective communication is one way for a relationships enhancement, it will help company promoting awareness to the customer in term of services provided and for problems solving. Through communication, supplier can keep in touch with their customer and on the same time can deliver resourceful information in enhancing their business relationships. This will increase level of customer satisfaction and service quality provided. Beside that, communication plays an important role in stimulating customer confidence and trust (Houn, Chen, and Yeh, 2000). This is supported by Zhenx et al (2008) which shows; effective communication will increase trust and customer confidence by which service provider can raise the level of relationships bond. Study by Mohr and Speakman, (1994) revealed effective and reliable communication among parties will lead to a successful business relationships, and will promote understandings and joint problems in long run. In study done by Tian, Lai and Daniel (2007) shows communication is the most important criteria in building relationships between logistics companies in China, because they are more

committed towards their relationships and are genuinely sharing all the ideas as well as feelings of discontent for benefit of their business.

2.3.5 Commitment

Commitment in Karin and Pervez (2004) was defined as intentional continuation of a business relationship. Customer commitment facilitates the development of marketing relationships (Fullerton, 2005) strong commitment and relationship is important among partner in business in order to minimize costs and maximize services (Stank, Keller and Daugherty, 2001) and customer commitment facilitates the development of marketing relationships. According to Morgan and Hunt (1993) commitment is an important determinant of the relationships success and a useful construct of measuring the likelihood of customer loyalty and predicting future purchase, frequency.

Only committed partner will have the initiative to nurture their relationships and to stay longer in their relationships (Tian, Lai and Daniel, 2007) Customer always value commitment from the logistics provider in term of flexibility of services (Sink,,Langley and Gibson, 1996) commitment will lead to trust , committed partners in the relationships, in the case of (Batt and Rexha (2000)), shows that regular meeting and discussion with customer has lead to trust in the relationships and customer will have intensity to have a long term relationships.

2.4 Logistics Service Quality

Logistics Service quality has been conceptualized as a process. (Mentzer, Flint, and Hult, 2001) it is a process of movement of goods, from point of ordering to point of destination. This process will is valued by customer, during the time services are performed. According to

(Hitt, Hoskisson and Ireland, 2007) one way to achieve core competencies in service, is through providing excellence service and not imitable . Beside the company services must be unique and valuable in customer's point of view. Logistics service quality is a physical and operational logistics process which is in line with marketing. The processes live as a result from the unique and complex characteristics of logistics which is not quantifiable, separable, and heterogeneous (Parasuraman et al 1985). In Mentzer and Speh, (1995) revealed, firm can create and achieve competitive advantage through excellence in logistic service. Further study was done in Mentzer and William, (2001) who also supported the earlier study, which revealed that in order to excel in logistics, operation department must have a good coordination and collaboration with marketing department.

Logistics concept has changed overtime, the changes are as a result from changes in the logistics landscape in term of value creation and services offered. However, this change is still in the operational based concept. According to Lalonde and Zinzer in Mentzer et al, (2001) there are three components make up logistics services. They are satisfying customers needs, measurement of customer satisfaction and commitment to the services. Logistics service quality was measured based on the value created by the provider to the logistics customers. It is due to quality of logistics service is, one of the marketing dimension in satisfying customer needs and wants. The traditional way of describing successful logistics service is, on time delivery whereby the goods arrived at the destination at the right time, in the good and right conditions and right price. (Mentzer et al., 2001)

2.4.1 Service Quality

Service quality is an important topic studied and explored from last decade, however until today it still regarded as one of the major attentions for researchers to grasp more on the

importance of service quality especially on the issue of measurement. According to (Parasuraman, Zeithaml and Berry, 1985) defined service quality as the differences between customer expectation and perception. There are Five quality service dimension was measured : reliability, responsiveness, tangibles , assurance (communication, competence, credibility, courtesy and security) and empathy (access and understanding customer) Few other studies were done on the service quality and different definition revealed, in Millen,Sohal and Moss (1999) it was defined as “ total support of customer needs and on time delivery followed by reliable supplier and accurate inventory information “. Studies on service quality by Rahman (2006) revealed achieving delight customer by performing services on time and innovative is the major area of quality service.

However, study in America revealed; total support from customer and on time delivery is the most important element in service quality. Most of the companies are having the same problems and limitations in implementing service quality i.e. lack of financial support from management and lack of expertise. In Berry, Ziethmal and Parasuraman, (1985) service quality is made up of four criteria; consumer perception on the service quality, second is value of service outcome from the customer point of view. This was measure based on the service provider attribute and attitude, and the third is quality of services offered. It is based on normal service and after sales service in term of problems handling, and the fourth is when individual customer received attention from company, this the case of credit card Company in monitoring credit purchase

2.4.2 Quality Measurement Model

The service quality model is use to measure performance of the services delivered for the purpose of benchmarking and improving the service quality. Based on Parasuraman (1985)

there are 19 model of service quality measurement and the most suitable model to use for measuring customer expectation and perception, is Gap model which was improvised to SERVQUAL model (Parasuraman, 1998). For the original 10 dimensions of SERVQUAL model were compressed into five dimensions, which are; reliability, which is about delivering services on the promised time. Responsiveness is how the services were delivered, it is about the commitment of the service provider and how prompt the services can be delivered. Tangibles are about the physical aspects of the service provider assets, such as office design, equipment and also appearances of the personnel who dealings with customers. Assurance is about the service provider accountability and sense of empathy in understanding customer desired and wants. According to Parasuraman et al, (1985) customer value the service quality at the time services are performed and delivered. This was supported by (Surpenant and Solomon, 1987), in Mentzer et al., 2001 who proposed that to measure the service quality is during the process of the services performed to the customer, during this time, it will involve sense of empathy or personal interaction between the supplier and receiver. This model were widely used in evaluating the importance of service quality in influencing customer perceptions towards the service quality (Parasuraman, 1998). According to Sheth and Parvatiar, (2002) "The SERVQUAL model is a standardized instrument to measure service quality, which is been used worldwide"

2.5 Logistics Information Technology

One of the most critical components of effective logistics services is adequate information technology systems support (Prahalad & Krishnan, 1999). Information technology can have significant effects on logistics operations, facilitating collaboration among supply chain partners, as well as allowing the automation of many routine logistics activities, thus enabling

logistics professionals to focus on more strategic issues in logistics management (Benjamin & Wigand, 1995; Handfield & Nichols, 1999). Indeed, from the advent of Electronic Data Interchange, through more modern iterations of supplier/customer networking such as Wal-Mart's Collaborative Forecasting and Replenishment (CFAR) process or vendor-managed inventory processes, information technology is the common thread. To consider how to improve the quality of logistics services without considering the impact of information technology would be to omit from the theoretical framework one of the most important tools for controlling consistency and improving efficiency that modern business has at its disposal.

Study by Razzque (2007), revealed the development of business and technology in third world countries is in the infancy state. He further added that one of the reason why third world country unable to cope with the current business changes was due to lack of information and communication technology (ICT) development. Information technology was one of the factors contributed to the successful of Dell and Wall Mart, which through ICT have made them known as a leader in logistics and supply chain (Srivasta, 2006). According to Closs, Goldby and Clinton (1997), information technology has influenced the overall logistics operations capabilities in terms of productivity and service quality, through on time and accurate information with a minimum costs. In addition, study by Lalonde and Master (1994) revealed that logistics process can be meaningful and successful with the usage of ICT. This will help company achieving competitive advantage in term of costs effective; as a result from reduce cycle time and increase productivity and reliability (Sauvage, 2003).

Through logistics information technology, companies can increase competitiveness and sustain competitive advantage. As mentioned in logistics handbook "logistics applications control, primary value-added activities necessary for firm stability and profitability means for integration and flexibility". According to Hammant (1995), investment in the information

technology is good for future business. It brings greater benefits to the logistics companies in future as system enables management to monitor inventory at all locations throughout the organization and help the companies in facilitating the inter-company integration. Based on a study by Irene, David, Gloria and Maria (2008) there are six major areas that information technology can help supply chain and logistics in achieving competitive strategy. These areas are planning and coordination between customers and suppliers, virtual enterprise, online business and e-commerce, infrastructure, management, and implementation. However, there is also a limitation to fully integrate the information technology in business as the companies must be prepared in terms of financial and legal aspects. Closs and Savitske (2003) mentioned that the usage of information technology in logistics companies will help companies achieve internal integration and performance but this approach will not be successful for external operations as companies are more equipped to implement and upgrading internal systems rather than outside. Usage of information technology is one way in improving quality of services and costs reduction, which leads to reliability and efficiency of data transfer (Morgko and Paroonjpitikul, 1998).